

WE CLAIM:

1. A nonwoven abrasive article comprising:
  - (a) a lofty nonwoven substrate having a first surface and an opposite second surface, the first surface and the second surface defining a plurality of peaks and valleys, the first surface and the second surface further defining a thickness, the thickness being substantially constant throughout the substrate; and
  - (b) an abrasive coating comprising a binder and abrasive particles present on at least a portion of the first surface.
2. The nonwoven abrasive article according to claim 1, wherein the thickness of the substrate is at least 500 micrometers.
- 15 3. The nonwoven abrasive article according to claim 2, wherein the thickness of the substrate is at least 1 mm.
4. The nonwoven abrasive article according to claim 1, wherein the abrasive coating comprises a make coat and abrasive particles at least partially embedded in the make coat.
- 20 5. The nonwoven abrasive article according to claim 1, wherein the abrasive coating further comprises a size coat over the abrasive particles.
6. The nonwoven abrasive article according to claim 1, wherein the abrasive coating comprises abrasive particles dispersed throughout a binder.
- 25 7. The nonwoven abrasive article according to claim 1, wherein the abrasive coating is present on at least the peaks of the substrate.
- 30 8. The nonwoven abrasive article according to claim 1, wherein the abrasive coating is present in at least the valleys of the substrate.

9. The nonwoven abrasive article according to claim 1, further comprising an abrasive coating comprising a binder and abrasive particles present on at least a portion of the second surface.

5 10. The nonwoven abrasive article according to claim 1, further comprising a second substrate attached to the second surface of the lofty nonwoven substrate.

11. The nonwoven abrasive article according to claim 10, wherein the second substrate comprises a sponge.

10 12. The nonwoven abrasive article according to claim 10, wherein the second substrate comprises a fabric.

15 13. The nonwoven abrasive article according to claim 1, wherein the abrasive particles have a particle size of at least 10 micrometers.

14. The nonwoven abrasive article according to claim 13, wherein the abrasive particles have a particle size of 50 to 600 micrometers.

20 15. The nonwoven abrasive article according to claim 1, wherein the peaks have a height of at least 0.5 mm.

16. The nonwoven abrasive article according to claim 1, having an overall thickness of at least 3 mm.

25 17. The nonwoven abrasive article according to claim 1, wherein a peak:valley area ratio is 75:25 to 25:75.

30 18. The nonwoven abrasive article according to claim 17, wherein the peak:valley area ratio is 50:50.

19. The nonwoven abrasive article according to claim 1, further comprising a reinforcing scrim.

20. The nonwoven abrasive article according to claim 19, wherein the reinforcing  
5 scrim is present between the first surface and the opposite second surface of the lofty nonwoven substrate.

21. A method of making a nonwoven abrasive article, the method comprising:  
10 (a) providing a lofty nonwoven substrate having a first surface and an opposite second surface, the first surface and the second surface defining a plurality of peaks and valleys, the first surface and the second surface further defining a thickness, the thickness being substantially constant throughout the substrate; and  
15 (b) providing an abrasive coating comprising a binder and abrasive particles on at least a portion of the first surface of the lofty nonwoven substrate.

22. The method according to claim 21, wherein the step of providing an abrasive coating comprises:

- 20 (a) applying a make coat to the lofty nonwoven substrate; and  
(b) depositing a plurality of abrasive particles into the make coat.

23. The method according to claim 22, wherein the step of providing an abrasive coating further comprises:

- 25 (a) applying a size coat over the abrasive particles.

24. The method according to claim 21, wherein the step of providing an abrasive coating comprises:

- (a) preparing an abrasive slurry comprising binder and abrasive particles; and  
(b) applying the abrasive slurry to the lofty nonwoven substrate.

30 25. The method according to claim 24, further comprising:

- (a) applying a size coat over the abrasive slurry.

26. The method according to claim 24, wherein the step of applying the abrasive slurry comprises:

- (a) applying the abrasive slurry to the peaks and leaving the valleys uncoated.

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27. The method according to claim 24, wherein the step of applying the abrasive slurry comprises:

- (a) applying the abrasive slurry to the valleys and leaving the peaks uncoated.

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